

ABSTRACT OF THE DISCLOSUREMEMBRANE PRESSURE SENSOR CONTAINING SILICON CARBIDE AND
METHOD OF MANUFACTURE

The invention concerns a pressure sensor (1), able to operate at high temperature and measure the pressure of a hostile medium, comprising:

- a sensing element (4) integrating a membrane (8) in monocrystalline silicon carbide, made by micro-machining a substrate in polycrystalline silicon carbide, a first surface of membrane (8) intended to contact said medium, a second surface of membrane (8) comprising membrane deformation detection means (9) connected to electric contacts (10) to connect electric connection means (11), the surfaces of sensing element (4) contacting said medium being chemically inert to this medium;

- a carrier (5) to support sensing element (4) so that said first surface of membrane (8) may be contacted with said medium and the second surface of membrane (8) may be shielded from said medium, carrier (5) being in polycrystalline silicon carbide;

- a seal strip (6), in material containing silicon carbide, brazed between carrier (5) and sensing element (4) to protect the second surface of membrane (8) from any contact with said medium.

Fig.

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